What is claimed is:

1.   An apparatus for performing a correlation with respect to a received signal, the apparatus comprising:

5   a first correlator that correlates for a real part of a first characteristic of the received signal to produce a first real correlated signal;

          a second correlator that correlates for an imaginary part of the first characteristic of the received signal to produce a first imaginary correlated signal;

          a third correlator that correlates for a real part of a second characteristic of

10   the received signal to produce a second real correlated signal;

          a fourth correlator that correlates for an imaginary part of the second characteristic of the received signal to produce a second imaginary correlated signal; and

          logic that combines a signal that corresponds to the first real correlated

15   signal, a signal that corresponds to the first imaginary correlated signal, the second real correlated signal and the second imaginary correlated signal to produce a real part of a frequency adjusted signal and an imaginary part of the frequency adjusted signal.

20   2.   The apparatus set forth in claim 1, further comprising:

          a frequency adjustment block that receives the first real correlated signal and the second real correlated signal and produces the signal that corresponds to the first real correlated signal and the signal that corresponds to the first imaginary correlated signal.

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3.   The apparatus set forth in claim 2, wherein the frequency adjustment block comprises a primary synchronization code ("PSC") frequency adjustment block.

4.   The apparatus set forth in claim 1, wherein the first correlator and the second

30   correlator comprise primary synchronization code ("PSC") correlators.

5.   The apparatus set forth in claim 1, wherein the third correlator and the fourth correlator comprise secondary synchronization code ("SSC") *b* correlators.

6.   The apparatus set forth in claim 1, wherein the first characteristic corresponds to an a sequence of a Primary SCH channel.

7.   The apparatus set forth in claim 1, wherein the second characteristic
5   corresponds to a *b* sequence of a Secondary SCH channel.

8.   The apparatus set forth in claim 1, wherein the apparatus comprises a portion of a code division multiple access receiver.

10   9.   The apparatus set forth in claim 1, wherein the apparatus comprises a portion of a receiver that complies with the Universal Mobile Telecommunications System ("UMTS") Wideband Code Division Multiple Access ("WCDMA") standard.

10.   A code division multiple access ("CDMA") receiver that receives a CDMA
15   signal, the CDMA receiver comprising:

an analog-to-digital converter that receives a CDMA signal and converts the CDMA signal into a digital signal:

a matched filter that filters the digital signal to produce a filtered digital signal;

a tapped delay line that receives the filtered digital signal and produces a
20   delayed filtered digital signal; and

a cell search block, comprising:

a first correlator that correlates at least a portion of the delayed filtered digital signal for a real part of a first characteristic of the received signal to produce a first real correlated signal;

25   a second correlator that correlates at least a portion of the delayed filtered digital signal for an imaginary part of the first characteristic of the received signal to produce a first imaginary correlated signal;

a third correlator that correlates at least a portion of the delayed filtered digital signal for a real part of a second characteristic of the received
30   signal to produce a second real correlated signal;

a fourth correlator that correlates at least a portion of the delayed filtered digital signal for an imaginary part of the second characteristic of the received signal to produce a second imaginary correlated signal; and

logic that combines a signal that corresponds to the first real correlated signal, a signal that corresponds to the first imaginary correlated signal, the second real correlated signal and the second imaginary correlated signal to produce a real part of a frequency adjusted signal and an imaginary part of

5   the frequency adjusted signal.

11.   The CDMA receiver set forth in claim 10, further comprising:

a frequency adjustment block that receives the first real correlated signal and the second real correlated signal and produces the signal that corresponds to the

10   first real correlated signal and the signal that corresponds to the first imaginary correlated signal.

12.   The CDMA receiver set forth in claim 11, wherein the frequency adjustment block comprises a primary synchronization code ("PSC") frequency adjustment

15   block.

13.   The CDMA receiver set forth in claim 10, wherein the first correlator and the second correlator comprise primary synchronization code ("PSC") correlators.

20   14.   The CDMA receiver set forth in claim 10, wherein the third correlator and the fourth correlator comprise secondary synchronization code ("SSC") b correlators.

15.   A method of performing a correlation with respect to a received signal, comprising:

25   correlating against a first characteristic of the received signal to produce a first correlated signal;

correlating against a second characteristic of the received signal to produce a second correlated signal;

performing a frequency adjustment on the first correlated signal to produce an

30   adjusted correlated signal;

combining the adjusted correlated signal with the second correlated signal to produce a correlated frequency adjusted signal.

16.   The method set forth in claim 15, wherein the first characteristic corresponds to an *a* sequence of a Primary SCH channel.

17.   The method set forth in claim 15, wherein the second characteristic corresponds to a *b* sequence of a Secondary SCH channel.

18.   The method set forth in claim 15, further comprising the step of:
        determining the complex conjugate of an imaginary portion of the first correlated signal.

19.   The method set forth in claim 15, further comprising the step of:
        multiplying the first correlated signal by a Primary Synchronization Code ("PSC") sequence to produce an intermediate adjusted correlated signal.

20.   The method set forth in claim 15, further comprising the step of:
        determining the complex conjugate of an imaginary portion of the intermediate adjusted correlated signal to form an imaginary portion of the adjusted correlated signal.